

WHAT IS CLAIMED IS

1. An acrylic polymer powder obtained by coagulating and drying a latex containing acrylic polymer particles, in which acrylic polymer powder, the average
5 particle size of the powder is 5 to 100 μ m, the percentage of void is 70 % or less, and the integral void volume on voids having a pore diameter of 1 μ m or more is 0.9 mL/g or less.

2. The acrylic polymer powder according to claim 1 wherein the acrylic polymer
10 particles are acrylic polymer particles (I) which are multistage polymer particles obtained by forming latter stage polymer (I-b) in a latex containing former stage polymer (I-a),

former stage polymer (I-a) being a copolymer containing 5 % by mass or more but
less than 50 % by mass of a methyl methacrylate unit and formed by a
15 polymerization reaction of one stage or polymerization reactions of succeeding two stages or more using mutually different monomer compositions,

latter stage polymer (I-b) being a copolymer containing 50 % by mass or more of a
methyl methacrylate unit and formed by a polymerization reaction of one stage or
polymerization reactions of succeeding two stages or more using mutually different
20 monomer compositions, and

the mass ratio of former stage polymer (I-a) / latter stage polymer (I-b) being 5/95
to 95/5.

3. The acrylic polymer powder according to claim 1 wherein the acrylic polymer
25 particles are acrylic polymer particles (II) which are multistage polymer particles obtained by forming latter stage polymer (II-b) in a latex containing former stage polymer (II-a),

former stage polymer (II-a) being a copolymer consisting of 50 to 99.99 % by mass
of an alkyl acrylate ester unit, 49.99 % by mass or less of a unit of another
30 monofunctional monomer copolymerizable with the alkyl acrylate ester and 0.01 to 10 % by mass of a multifunctional monomer unit and formed by a polymerization

reaction of one stage or polymerization reactions of succeeding two stages or more using mutually different monomer compositions,

latter stage polymer (II-b) being a polymer containing 50 % by mass or more of a methyl methacrylate unit and formed by a polymerization reaction of one stage or polymerization reactions of succeeding two stages or more using mutually different
5 monomer compositions, and

the mass ratio of former stage polymer (II-a) / latter stage polymer (II-b) being 5/95 to 95/5.

10 4. The acrylic polymer powder according to claim 2 wherein the macropore diameter of the acrylic polymer powder is 7 μm or less, and the micropore diameter thereof is 0.5 μm or less.

5 5. The acrylic polymer powder according to claim 3 wherein the macropore diameter of the acrylic polymer powder is 7 μm or less, and the micropore diameter thereof is 0.5 μm or less.

20 6. The acrylic polymer powder according to claim 2 wherein the ratio A/B of the pore volume A of macropores to the pore volume B of micropores per 1 g of the acrylic polymer powder is 0.5 to 5.

25 7. The acrylic polymer powder according to claim 3 wherein the ratio A/B of the pore volume A of macropores to the pore volume B of micropores per 1 g of the acrylic polymer powder is 0.5 to 5.

8. The acrylic polymer powder according to claim 4 wherein the ratio A/B of the pore volume A of macropores to the pore volume B of micropores per 1 g of the acrylic polymer powder is 0.5 to 5.

30 9. The acrylic polymer powder according to claim 5 wherein the ratio A/B of the pore volume A of macropores to the pore volume B of micropores per 1 g of the acrylic polymer powder is 0.5 to 5.

10. The acrylic polymer powder according to claim 2 wherein the coagulation and drying is spray drying.

11. The acrylic polymer powder according to claim 3 wherein the coagulation and
5 drying is spray drying.

12. The acrylic polymer powder according to any one of claims 1 to 11 wherein the particle size ratio a/b of the length a to breadth b of the acrylic polymer powder observed through an electron microscope is 1.0 or more but less than 2.
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13. The acrylic polymer powder according to claim 12 wherein the surface tension of the latex containing the acrylic polymer particles is 500 $\mu\text{N/cm}$ or less.

14. The acrylic polymer powder according to any one of claims 1 to 11 wherein the
15 latex is a latex containing the acrylic polymer particle and a water soluble macromolecule having a weight average molecular weight of 10,000 or more, and the use amount of the water soluble macromolecule is 0.001 to 10 parts by mass based on 100 parts by mass of the acrylic polymer particles, and the acrylic polymer powder is obtained by spray drying the latex.

20 15. The acrylic polymer powder according to any one of claims 2 to 11 wherein the acrylic polymer particles (I) are multistage polymer particles which are obtained by forming latter stage polymer (I-b) in a latex containing former stage polymer (I-a), and have at least one layer consisting of a copolymer having a reactive surfactant
25 as a constituent.

16. The acrylic polymer powder according to claim 15 which has the layer(s) consisting of a copolymer having a reactive surfactant as a constituent, at least as the outermost layer.
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17. The acrylic polymer powder according to claim 1 wherein the latex is a latex obtained by mixing

a latex containing particles of a copolymer (II-a) consisting of 50 to 99.99 % by mass of an alkyl acrylate ester unit, 49.99 % by mass or less of a unit of another monofunctional monomer copolymerizable with the alkyl acrylate ester and 0.01 to 10 % by mass of a multifunctional monomer unit and formed by a polymerization reaction of one stage or polymerization reactions of succeeding two stages or more using mutually different monomer compositions (hereinafter, the above particles of a copolymer (II-a) are referred to as acrylic polymer particles (II-a)) with

a latex containing acrylic polymer particles (I-1) which are multistage polymer particles obtained by forming latter stage polymer (I-b) in a latex containing former stage polymer (I-1-a),

former stage polymer (I-1-a) being a copolymer containing 20 % by mass or more but less than 50 % by mass of a methyl methacrylate unit at least in the outermost layer thereof and formed by a polymerization reaction of one stage or polymerization reactions of succeeding two stages or more using mutually different monomer compositions,

latter stage polymer (I-b) being a polymer containing 50 % by mass or more of a methyl methacrylate unit and formed by a polymerization reaction of one stage or polymerization reactions of succeeding two stages or more using mutually different monomer compositions, and

the mass ratio of former stage polymer (I-1-a) / latter stage polymer (I-b) being 5/95 to 95/5,

at an acrylic polymer particles (II-a) / acrylic polymer particles (I-1) ratio by mass of 5/95 to 40/60.

18. An acrylic sol comprising the acrylic polymer powder according to any one of claims 1 to 11 and a plasticizer.

19. An acrylic sol comprising the acrylic polymer powder according to claim 12 and a plasticizer.

20. An acrylic sol comprising the acrylic polymer powder according to claim 14 and a plasticizer.

21. An acrylic sol comprising the acrylic polymer powder according to claim 15 and a plasticizer.

5 22. An acrylic sol comprising the acrylic polymer powder according to claim 17 and a plasticizer.

23. A molding obtained from the acrylic sol according to claim 18.

10 24. A molding obtained from the acrylic sol according to claim 19.

25. A molding obtained from the acrylic sol according to claim 20.

26. A molding obtained from the acrylic sol according to claim 21.

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27. A molding obtained from the acrylic sol according to claim 22.